

CLAIMS

What is claimed is:

1. An isolated, synthetic or recombinant peptide of a minor Histocompatibility antigen HA-1 origin, the isolated, synthetic or recombinant peptide comprising the sequence VLXDDLLEA (SEQ ID NO: 1), wherein X is histidine or arginine.
2. The isolated, synthetic or recombinant peptide of claim 1, wherein X is histidine.
3. The isolated, synthetic or recombinant peptide of claim 1, wherein the isolated, synthetic or recombinant peptide has a length of about 7 to 15 amino acids.
4. A vaccine comprising the isolated, synthetic or recombinant peptide of claim 1.
5. A composition comprising the isolated, synthetic or recombinant peptide of claim 1.
6. A process of inducing tolerance for transplants to reduce the rejection and/or Graft versus Host disease or to treat autoimmune disease in a subject, the process comprising:
administering the isolated, synthetic or recombinant peptide of claim 1 to a subject.
7. The process according to claim 6, wherein the isolated, synthetic or recombinant peptide is administered orally, intravenously, intraocularly, intranasally, or combinations of any thereof.
8. A process for the elimination of hematopoietic cells presenting a peptide of an HLA class 1 origin, the process comprising:
inducing cytotoxic T-cells with the isolated, synthetic or recombinant peptide of claim 1; and
placing the induced cytotoxic T-cells in contact with hematopoietic cells presenting the peptide of the HLA class 1 origin.

9. An analog of the isolated, synthetic or recombinant peptide of claim 1, wherein the analog is an antagonist for the activity of T cells recognizing the isolated, synthetic or recombinant peptide.

10. A process for producing antibodies, T-cell receptors, anti-idiotypic B-cells or T-cells, the process comprising:

administering the isolated, synthetic or recombinant peptide of claim 1 to a mammal, thus inducing production of the antibodies, T-cell receptors, anti-idiotypic B-cells or T-cells.

11. Antibodies, T-cell receptors, B-cells or T-cells produced by the process according to claim 10.

12. A process for producing a cytotoxic T-cell against a minor antigen, the process comprising:

providing an isolated, synthetic or recombinant peptide comprising the sequence VLXDDLLEA (SEQ ID NO: 1), wherein X represents histidine or arginine; and

contacting a hematopoietic cell with the isolated, synthetic or recombinant peptide, thus, producing the cytotoxic T-cell.

13. The process according to claim 12, wherein the hematopoietic cell is negative for the minor antigen.

14. The process according to claim 12, wherein the minor antigen is HA-1.

15. The process according to claim 12, wherein contacting the hematopoietic cell with the isolated, synthetic or recombinant peptide is carried out ex vivo.

16. The process according to claim 12, further comprising transducing the cytotoxic T-cell with a suicide gene.

17. The process according to claim 12, wherein the cytotoxic T-cell is immortalized.
18. The process according to claim 12, wherein the cytotoxic T-cell is capable of expansion.
19. A cytotoxic T-cell, produced by the process according to claim 12.
20. The process according to claim 12, wherein the isolated, synthetic or recombinant peptide is about 7 to 15 amino acids in length.
21. An immunogenic polypeptide of a minor Histocompatibility antigen HA-1 origin, comprising the sequence VLXDDLLEA (SEQ ID NO: 1) or an epitope thereof capable of producing an immune response, wherein X is histidine or arginine.